A Beginner's Guide to OSHA's Final Silica Rule

Author: John F. Martin (Washington DC)

Published Date: April 4, 2016

On March 24, 2016, the Occupational Safety and Health Administration (OSHA) announced its final rule on occupational exposure to respirable crystalline silica. The rule was published in the Federal Register on March 25, 2016.

The following frequently asked questions (FAQs) serve as a guide for employers new to OSHA's new silica rule and are not legal advice. Those familiar with OSHA's silica rulemaking, should refer to our March 25, 2016 article, “OSHA Issues Final Silica Rule: What's the Same and What's Changed? ” summarizing the major changes from the proposed rule submitted for comment in 2013.

What Is OSHA's Silica Rule?

OSHA's final rule on respirable crystalline silica is one of the most significant health standards created by the agency. In the works for over 15 years, the final rule is a legacy project for OSHA under the Obama administration.

Does OSHA's Silica Rule Affect Me?

If your employees are exposed to sand or dust, then you may be covered by OSHA's new rule. OSHA considers employers in the following industries or with employees who work with the following products to be impacted by its new rule: construction; glass products; pottery products; structural clay products; concrete products; foundries; dental laboratories; paintings and coatings; jewelry production; refractory products; refractory installation and repair; ready-mix concrete; cut stone and stone products; railroad track maintenance; hydraulic fracturing for gas and oil; and abrasive blasting.

OSHA specifically exempted agricultural operations and exposures from sorptive clays from the final rule. In addition, if you can demonstrate (with objective data) that your employees will only be exposed to miniscule amounts of silica, you are exempt from the silica rule. Exposure to “miniscule” amounts means exposure to less than 25 micrograms per cubic meter (25 μg/m^3) of air as an eight-hour time-weighted average under foreseeable conditions.

I May Be Covered. What Should I Do?

The first step a covered employer may want to take is to conduct an exposure assessment for any employee who is or may reasonably be expected to be exposed to silica above the “Action Level.” The Action Level is 25 micrograms per cubic meter (25 μg/m^3) of air as an 8-hour time-weighted average.
How do you determine whether an employee’s exposure reaches the Action Level? Usually by enlisting the services of an industrial hygienist to conduct air sampling on and around potentially affected employees and sending those samples off to a lab for analysis. OSHA also permits a “performance option,” allowing employers to rely on “objective data” to conduct the assessment. “Objective data” generally means industry-wide surveys or calculations based on the composition of a substance that demonstrates employee exposure either on a particular product or for a specific job task or activity. OSHA cautions that such data “must reflect workplace conditions closely resembling or with a higher exposure potential” than the products, job tasks, and environmental conditions in the employer’s current operations.

For employers choosing to retain an industrial hygienist, samples should reflect the exposures of employees on each shift, for each job classification, in each work area potentially exposed to silica. OSHA’s rule requires that employers sample employees expected to have the highest silica exposure. You must keep records and track the number, duration, and results of samples taken; the dates of the samples; the tasks monitored; the sampling and analytical methods used; the identity of the lab performing the analysis; the personal protective equipment worn by monitored employees; and the names, social security numbers, and job classifications of all employees represented by the monitoring, as well as identifying which employees were actually monitored.

The next step to take depends on the lab results:

→ If the lab results show that employees are exposed to silica below the Action Level, the assessment is complete and you may discontinue monitoring for any employees represented by the monitoring.

→ If the lab results show that employees are exposed to silica above the Action Level but still below the “permissible exposure limit” (PEL), which is 50 micrograms per cubic meter (50 μg/m3) of air as an eight-hour time-weighted average, repeat the monitoring within 6 months of the last monitoring. Employees exposed to silica above the Action Level must undergo medical surveillance. (See below for more information on medical surveillance.)

→ If the lab results show that employees are exposed to silica above the PEL, repeat the monitoring within three months of the last monitoring. Employees exposed to silica above the PEL must also undergo medical surveillance. Begin planning to take all steps necessary to lower exposure levels to below the PEL. Begin formulating your company’s silica exposure control plan (see below for information on silica exposure control plans). Begin respirator programs, and if you are covered by OSHA’s General Industry or Maritime Standards, establish regulated areas.

Once the exposure assessment is complete, you must notify affected employees in writing within 15 working days (5 days if you are in the construction industry), or post the results in an appropriate location accessible to affected employees. If employee exposure is above the PEL, your notice must also describe the corrective action being taken to reduce employee exposure to an amount below the PEL.

Can I Send My Samples Off to Any Lab?

No. The lab must follow certain testing protocols and be accredited to ANS/ISO/IEC Standard 17025:2005 for crystalline silica analyses by a body that is complaint with ISO/IEC Standard
When Does the Rule Require Medical Surveillance?

OSHA's rule requires medical surveillance for any affected employee exposed to silica above the Action Level for 30 or more days per year. Employers must schedule initial exams within 30 days after initial assignment, unless the employee has already received a compliant medical examination within the last three years. Compliant medical exams consist of:

→ a medical and work history, with an emphasis on past, present, and anticipated exposure to respirable crystalline silica, dust, and other agents affecting the respiratory system; any history of respiratory system dysfunction, including signs and symptoms of respiratory disease (e.g., shortness of breath, cough, wheezing); history of tuberculosis; and, finally, smoking status and history;

→ a physical examination with special emphasis on the respiratory system;

→ a chest x-ray (a single posteroanterior radiographic projection or radiograph of the chest at full inspiration recorded on either film—no less than 14 by 17 inches and no more than 16 by 17 inches—or by a digital radiography system), interpreted and classified according to the International Labour Office’s International Classification of Radiographs of Pneumoconioses by a National Institute for Occupational Safety and Health (NIOSH)-certified “B” reader;

→ a pulmonary function test, including forced vital capacity (FVC) and forced expiratory volume in one second (FEV1) and the FEV1/FVC ratio, administered by a spirometry technician with a current certificate from a NIOSH-approved spirometry course;

→ testing for latent tuberculosis infection; and

→ any other tests deemed appropriate by the physician or other licensed health care professional (PLHCP).

Medical exams must occur at least every three years or sooner if recommended by a PLHCP. Employers must provide PLHCPs with a copy of the OSHA silica standard, along with the following, for each affected employee:

→ a description of the employee’s former, current, and anticipated duties as they relate to the employee’s occupational exposure to respirable crystalline silica;

→ the employee’s former, current, and anticipated levels of occupational exposure to respirable crystalline silica;

→ a description of any personal protective equipment used or to be used by the employee, including when and for how long the employee has used or will use that equipment; and

→ information from records of employment-related medical examinations previously provided to the
employee and currently within the control of the employer.

Within 30 days of the exam, the PLHCP must provide two reports:

- a written medical report to the employee detailing the results of the medical examination, any recommended limitations on the employee’s use of respirators, any recommended limitations on the employee’s exposure to silica, and a referral to a specialist if the chest x-ray is classified as 1/0 or higher by the B reader or if referral to a specialist is otherwise deemed appropriate by the PLHCP; and

- a written medical opinion to the employer stating the date of the exam, an affirmation that the exam met the requirements of the silica standard, and providing any recommended limitations on the employee’s use of respirators. If the employee provides written authorization, the report may also contain any recommended limitations on the employee’s exposure to silica, and a statement of whether the employee should be examined by a specialist.

The rule requires employers to ensure that employees also receive a copy of this second report within 30 days of the exam.

If there is a referral to a specialist, the employer is required to make a medical exam by a specialist available within 30 days after receiving the PLHCP’s written opinion. The rule requires the employer to provide the specialist with the same information provided to the PLHCP. The specialist must prepare separate reports similar to the reports prepared by the PLHCP and send those reports to the employee and employer within 30 days of the specialist’s exam.

What Do I Do With All These Samples, Lab Reports, and Medical Exam Reports?

Keep them for at least the duration of the employee’s employment plus 30 years. Since it is nearly impossible to track such records on an employee-by-employee basis, the easier practice may be to keep all such records indefinitely.

How Does Silica Affect Hazard Communication Training?

The new rule requires employers to ensure silica is included in their Hazard Communication Program, so make sure employees have access to labels on containers of silica and access to Safety Data Sheets (SDS) on silica. Your hazard communication program must, at the very least, address the hazards of cancer, lung effects, immune system effects, and kidney effects.

What Are Employers’ Obligations if Employees Are Exposed to Silica Above the PEL, Establish Regulated Areas?

For all areas of the workplace in General Industry and Maritime where employee exposure to silica is or can reasonably be expected to be above the PEL, the employer must demarcate them off as “regulated areas.” Access to these areas must be limited to authorized personnel, i.e., those employees whose work duties require them to work in the area, any designated employee representatives, and OSHA officials. All employees working in regulated areas must be provided with appropriate respirators. Warning signs
must be posted at all entrances to regulated areas with the following language:

**RESPIRABLE CRYSTALLINE SILICA**

**MAY CAUSE CANCER**

**CAUSES DAMAGE TO LUNGS**

**WEAR RESPIRATORY PROTECTION IN THIS AREA**

**AUTHORIZED PERSONNEL ONLY**

**What Are Employers’ Obligations if Employees Are Exposed to Silica Above the PEL, Establish Engineering and Work Practice Controls.**

OSHA requires employers to utilize the hierarchy of controls to reduce employee exposure to below the PEL. The hierarchy of controls directs employers to first consider engineering controls to eliminate hazards. If engineering controls cannot be utilized, employers may consider work practice controls.

**What if Engineering and Work Practice Controls Won’t Get Employees Below the PEL? Can Employers Just Put Respirators on Everyone?**

No. “Wherever such feasible engineering and work practice controls are not sufficient to reduce employee exposure to or below the PEL,” OSHA explains, “the employer shall nonetheless use them to reduce employee exposure to the lowest feasible level and shall supplement them with the use of respiratory protection.”

**Will Employers Get Into Trouble if Employees Are Wearing Respirators?**

No, unless OSHA feels that an employer has not established adequate engineering or work practice controls to reduce exposure levels to silica. Respirator use is actually required whenever employees are installing or implementing your engineering and work practice controls, or during certain maintenance and repair tasks for which engineering and work practice controls are not feasible. Finally, if all of an employer’s engineering and work practice controls still do not reduce employee exposure to or below the PEL, the employer must outfit affected employees with respirators.

**What if Engineering or Work Practice Controls Are Too Expensive to Implement?**

Infeasibility is a defense to an OSHA citation, but the burden will be on the employer to prove that such controls are either economically infeasible (the control is too expensive to implement and maintain) or technologically infeasible (the control does not effectively work to reduce exposure). OSHA historically has taken a dim view of economic infeasibility. Few inspectors accept an infeasibility argument at face value and instead may issue the employer a citation for failing to properly implement appropriate engineering or work practice controls.

**Do Employers Have Any Other Alternatives?**

Yes. If the job task is listed on Table 1, located in the silica rule for construction, then the employer may follow OSHAs methods (engineering and work practice controls, as well as respiratory protection) and be deemed in compliance. For instance, if employees are using a stationary masonry saw, if the employer
uses a saw equipped with an integrated water delivery system that continually feeds water to the blade, and employees operate and maintain the blade in accordance with manufacturer’s instructions to minimize dust emissions, OSHA will deem the employer to have implemented sufficient engineering and work practice controls for silica-related job tasks involving stationary masonry saws. Table 1 contains a list for 18 different pieces of equipment or job tasks.

**Are Employers Required to Adopt Written Exposure Control Plans?**

The silica rule requires employers to create written exposure control plans. Such plans must include three things: (1) a description of the tasks in the workplace that involve exposure to respirable crystalline silica; (2) a description of the engineering controls, work practices, and respiratory protections used to limit employee exposure to respirable crystalline silica for each task; and (3) a description of the housekeeping measures used to limit employee exposure to respirable crystalline silica.

Employers must review written exposure control plans at least annually and update them as necessary. Written exposure control plans must be made available upon demand to employees, union representatives, and OSHA.

**Does the Silica Rule Include Special Housekeeping Rules?**

The new rule allows dry sweeping and brushing, but only when the employer can show wet sweeping or HEPA-filtered vacuuming are not feasible. For instance, wet sweeping will not work in outdoor work sites when temperatures are below freezing.

Employers may use compressed air cleaning, but only in conjunction with a ventilation system that effectively captures dust clouds created by the compressed air.

**When Will the Silica Rule Go Into Effect?**

For the construction industry, the silica rule will go into effect on June 23, 2017. General industry and maritime employers will receive a two-year grace period to comply, until June 23, 2018. The fracking industry received a two-year grace period, but was also given a five-year grace period (until June 23, 2021) to implement engineering controls to limit exposures above the new PEL.

John F. Martin (Washington DC)

John Martin focuses his practice on occupational safety and health compliance and litigation. He serves as national OSHA counsel for three publicly-traded companies, and has over 15 years of experience in defending employers in federal court and before the Occupational Safety and Health Review Commission (OSHRC). John has defended clients in 18 states and counsels clients on developing safety programs to eliminate and reduce workplace injuries. John also consults employers and industry groups on...